REMARKS

In the office action dated March 28, 2005, the Examiner rejected claims 1-2. In this amendment, new claims 3-7 are added, including new independent claim 6. No new matter is added. The new claims are supported by the original specification, in particular by FIG. 1 and by the description in paragraphs [0018] – [0024].

The Examiner's comments and rejections are addressed in the order they were presented in the Office Action.

The 35 U.S.C. § 103 Rejection

The Examiner rejected claims 1 and 2 under 35 U.S.C. § 103(a) as being unpatentable over the acknowledged prior art of paragraph 005 in view of U.S. Patent No. 3,583,422 ("Dach"). This rejection is respectfully traversed.

The examiner states that, "It would have been obvious in view of the projections shown on the outer circumference of the sleeve 2 of Dach et al to provide at least one projection on the sleeve of the acknowledged prior art of paragraph 005 of the instant specification in order to provide for better sealing and to facilitate the movement of the sleeve." There are two things which the Dach patent must teach to show that a person skilled in the art would combine Dach with the acknowledged prior art of paragraph 005. First it must teach that a sleeve projection would provide for better sealing. Second it must teach that the sleeve projection would facilitate the movement of the sleeve. Dach does not teach either of these uses.

Dach's only mention of the shape of the sleeve (i.e. the piston 2) is to say that it receives a compression spring 6 within its recess (Col 3, lines 5-6). Dach also teaches that the sleeve (i.e. the piston 2) moves from one end of the housing 20 to the other in response to the changing fluid pressure in the space 5 and outlet port 8 during one cycle of operation. (Col 3. lines 11 – 58) Dach also teaches that the sleeve (i.e. the piston 2) when at its alternate, off-normal limited position it covers discharge port 13. (Figure 2 and Figure 3). Therefore all that one could learn from the shape of Dach's sleeve (i.e. piston 2) is that it must be of a length great enough to cover the discharge port 13 and must have a recess of a size large enough to receive the spring 6. Likewise all one could learn from the purpose of Dach's sleeve (i.e. piston 2) is that it must slide from one end of the housing to the other in a single cycle of operation.

Dach does not teach better sealing by use of the sleeve projection. The use of the sleeve (i.e. the piston 2) in Dach is for covering the discharge port 13. Dach does not teach the advantages of sealing "a portion of the chamber 204 where the valve spool 200 is positioned from the other portion of the chamber 204" as described in the current invention. (Paragraph 0017).

Likewise Dach does not teach facilitated movement of the sleeve. The current invention teaches that, "the sleeve 220 seals a variable solenoid control pressure, and an adjusting range of the adjustment screw assembly 230 is twice that of a conventional hydraulic pressure regulating device." However, Dach teaches nothing about the facilitated movement of the sleeve, and in fact, due to the movement of the sleeve (i.e. the piston 2) that Dach does describe, a longer projection would actually limit rather than expand the possible movement of the sleeve (i.e. the piston 2).

For all of these reason, original claims 1 and 2 are patentable over the cited references.

In addition, new claims 3-7 are further patentable over the cited prior art. For example, considering claims 5 and 7 first, the cited art does not teach or suggest a sleeve having an H-shaped cross-section as shown in the figure and claimed in combination with the other limitations discussed above. Claims 5 and 7 are therefore patentable.

With respect to new claims 3, 4, and 6 (independent), the instant specification describes at paragraphs [0018] through [0026] how cooperation between the circumferential projection of the sleeve and the inner surface of the housing chamber provides for a reduction in the length over which precision manufacturing is required in order to maintain the seal between the sleeve and the housing even over a large range of adjustment. This specific structural relationship is recited in claims 3, 4 and 6, which relationship is not taught or suggested by the cited art.

In particular, Dach describes that the piston 2 moves from one end of the housing 20 to the other in response to the changing fluid pressure in the space 5 and outlet port 8 during one cycle of operation. Therefore a lengthening of the sleeve (i.e., the piston 2) will result in a degradation of the degree of freedom in designing the pressure regulating device because as the sleeve (i.e. the piston) lengthens its possible travel length within the housing decreases. However, according to the present invention, the sleeve 220 moves within the valve housing 201 in response to the position of the adjustment screw assembly 230. The sleeve does not

move from one end of the valve housing 201 to the other during operation because it is limited by the shaft 202 of the valve spool 200 as shown in Figure 1. Therefore, according to the present invention, the degree of freedom in designing the pressure regulating device is not degraded by lengthening the sleeve 220.

Second, according to the present invention, a length of the inner surface 203 of the valve housing 201 that must be precisely manufactured can be decreased by lengthening the sleeve 220. Support for this is found in paragraph [0026] of the specification as filed. The projection portion 224 of the sleeve 220 can be easily lengthened to achieve this result. According to Dach, the piston 2 rectilinearly moves within the housing 20 which implies that the entire moving distance must be precisely manufactured. Therefore, according to Dach, lengthening of the piston 2 would not produce a decreased length of the inner surface of the valve housing that must be precisely manufactured.

In light of the foregoing, the Examiner has not established prima facie obviousness with Dach in view of the prior art described in paragraph 005 because Dach and the prior art in paragraph 005, alone or in combination, do not teach each and every limitation of claims 1 – 7.

In view of the foregoing amendments and remarks, it is believed that the application as a whole is in form for allowance. Should the Examiner have any continuing objections, Applicant respectfully asks the Examiner to contact the undersigned at 415-442-1000 in order to expedite allowance of the case. Authorization is granted to charge any outstanding fees due at this time for the continued prosecution of this matter to Morgan, Lewis & Bockius LLP Deposit Account No. 50-0310 (matter no. 060944-0207-US).

Respectfully submitted,

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